

REMARKS/ARGUMENTS

Initially, Applicant would like to express his appreciation to the Examiner for acknowledging Applicant's claim for foreign priority, and that the certified copies of the priority documents have been received.

In the Final Official Action, claims 24-25, 27, 32, 36, 38, 45-49, 51, and 53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WILSON et al. (U.S. Patent Application Publication No. 2001/0021265 A1) in view of FARNSWORTH et al. (U.S. Patent No. 6,555,400 B2). Claims 28-30, 33, 35, 40-41, 50, and 52 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WILSON in view of FARNSWORTH and IZAWA et al. (U.S. Patent Application Publication No. 2002/0103563 A1).

Claims 24-25, 27-30, 32-33, 35-36, 38, 40-41, and 45-53 are currently pending for consideration by the Examiner. Claims 1-23, 26, 31, 34, 37, 39, and 42-44 have been previously cancelled.

Claims 24-25, 27, 32, 36, 38, 45-49, 51, and 53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WILSON in view of FARNSWORTH. With regard to independent claims 45-49, 51, and 53, the Final Official Action has made a generalized rejection to cover all of the above-cited independent claims collectively. The Final Official Action asserts that WILSON discloses a circuit substrate production method and system for a multi-piece substrate, which includes a plurality of substrate pieces that are separated at various separation levels similar to that recited in Applicant's independent claims. The Final Official Action also asserts that the various separated pieces each include an information recording portion.

However, the Final Official Action acknowledges that WILSON fails to disclose that the information recording portions are configured with information related to the substrate, sheet,

and piece. The Final Official Action also acknowledges that WILSON fails to disclose that the information recording portions include information related to the substrate, sheet, and piece, as well as the recording of referenceable management and manufacturing information. Nevertheless, the Final Official Action asserts that FARNWORTH discloses these features and asserts that independent claims 45-49, 51, and 53 would have been obvious.

Contrary to the assertions made by the Final Official Action, Applicant respectfully submits that independent claims 45-49, 51, and 53 would not have been obvious to one of ordinary skill in the art at the time of the invention for at least several reasons.

For instance, with regard to the “substrate, sheet, and piece information”, independent claim 45 explicitly recites *configuring the multi-piece substrate to include an information recording portion that includes information related to the entire multi-piece substrate* (emphasis added). Claim 45 also recites that *each substrate sheet is configured with an information recording portion that includes information related to the entire multi-piece substrate and information related to the identification of the substrate sheet* (emphasis added). Claim 45 further recites that *each substrate piece is configured with an information recording portion that includes information related to the entire multi-piece substrate, information related to a substrate sheet, and information related to the identification of the substrate piece* (emphasis added). Thus, claim 45 explicitly recites a specific hierarchy of information that is different and progressively more detailed from the multi-piece substrate information recording portion, to the more detailed substrate sheet information recording portions, to the most detailed substrate piece information recording portions.

As stated above, the Final Official Action acknowledges that WILSON fails to disclose these features, but asserts that FARNSWORTH discloses these features, citing

FARNSWORTH's column 7, lines 6-67. Contrary to this assertion, Applicant submits that the cited section of FARNSWORTH does not disclose the specific hierarchy of progressively more detailed information recorded on the information recording portions, as explicitly recited in claim 45. In distinct contrast, Applicant submits that the cited section of FARNSWORTH merely provides a generalized disclosure that the overall substrate may include a designator having encoded information which corresponds to and allows access with an electronic file in a database at a remote location. (See FARNSWORTH column 7, lines 7-18.) Thus, Applicant submits that not only does the cited section of FARNSWORTH fail to disclose the specific hierarchy of progressively more detailed information recorded on the information recording portions, but that the cited section discloses that whatever information is recorded is stored in a database at a remote location.

With regard to the recording of referenceable management and manufacturing information related to the substrate manufacturer and the mounting manufacturer on the information recording portions recited in claim 45, the Final Official Action asserts that "FARNSWORTH teaches of an electronic file that includes identification and mapped information of the substrate and each die sited including manufacturing information, place of manufacturer, etc as explained in lines 18-32 in column 7 and lines 1-6 of column 9." (See Final Official Action, page 4, lines 16-20.)

Applicant respectfully submits that the electronic file to which the Final Official Action is referring to in the cited sections of FARNWORTH is stored in a database at a remote location (See FARNSWORTH, column 7, lines 15-18), and not on the various information recording portions as explicitly recited in claim 45. Thus, Applicant respectfully submits that neither WILSON, FARNSWORTH, nor the combination thereof disclose or render obvious the feature

of recording on the information recording portions referenceable management and manufacturing information related to the substrate manufacturer and the mounting manufacturer in the multi-piece substrate as explicitly recited in claim 45.

For at least the above reasons, Applicant submits that the specific combination of features recited in independent claim 45 would not have been obvious to one of ordinary skill in the art at the time of the invention in view of the WILSON and, FARNSWORTH. Additionally, Applicant submits that independent claims 46-49, 51, and 53 are also patentable for reasons similar to those express above, since claims 46-49, 51, and 53 recite features similar to the above-cited features of claim 45.

Furthermore, with regard to independent claim 51 and 53, Applicant submits that neither WILSON, nor FARNSWORTH discloses recording the specific management and manufacturing information on the substrate information recording portions, including *mounting manufacturer management information, substrate manufacturer management information, a manufacturing lot number, a total number of substrates included in a lot, a substrate sequence number, a substrate sheet code, and a substrate piece code*, as explicitly recited in claims 51 and 53.

Additionally, Applicant submits that claims 24-25, 27, 32, 36, and 38, which depend on independent claims 45, 46, 47, 48, and 49, respectively, are also patentable for at least the reasons discussed above, and further for the additional features recited therein. Accordingly, Applicant respectfully requests that the rejection of claims 24-25, 27, 32, 36, 38, 45-49, 51, and 53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WILSON in view of FARNSWORTH be withdrawn.

Claims 28-30, 33, 35, 40-41, 50, and 52 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WILSON in view of FARNSWORTH and IZAWA. Applicant submits that

independent claims 50 and 52 are patentable for reasons similar to the reasons discussed above regarding independent claim 45, since claims 50 and 52 include features similar to claim 45.

Additionally, Applicant submits that IZAWA's general disclosure of a computer environment utilizing a communication network and a database fails to disclose or render obvious the specific features in claim 50 that explicitly recite transmitting production information and identification information from a substrate manufacturer and from a mounting manufacturer to a data processing center via a communication network (emphasis added). Applicant submits that the cited sections of IZAWA do not disclose the transmission of such information from both a substrate manufacturer and from a mounting manufacture to a data processing center. Applicant also submits that IZAWA fails to disclose the similar features of claim 52 that relate to the retrieving of the data from the various databases by both the substrate manufacture and the mounting manufacturer.

As an additional matter to the deficiencies of the applied references discussed above, Applicant respectfully submits that the Final Official Action has impermissibly pieced together three distinct references in a piecemeal manner using impermissible hindsight reasoning and Applicant's disclosure as a guide. Applicant also submits that the Final Official Action has failed to provide any convincing line of reasoning why one of ordinary skill in the art would have combined the applied references in the manner asserted.

Furthermore, Applicant submits that the obviousness rationale asserted in the Final Official Action is improper because the rationale goes significantly beyond the knowledge that was within the level of ordinary skill in the art at the time of the invention, and was based on the description of the invention provided in Applicant's disclosure. Applicant submits that without using Applicant's disclosure as a roadmap, one of ordinary skill in the art would not have pieced

the three distinct references together in the manner asserted, given the relatively limitless number of possible configurations that would have been presented to one of ordinary skill in the art at the time of the invention.

For at least the reasons discussed above, Applicant submits that the specific combination of features recited in independent claims 50 and 52 would not have been obvious to one of ordinary skill in the art at the time of the invention, in view of WILSON, FARNSWORTH and IZAWA. Accordingly, Applicant respectfully requests that the rejection of claims 28-30, 33, 35, 40-41, 50, and 52 under 35 U.S.C. § 103(a) as being unpatentable over WILSON in view of FARNSWORTH and IZAWA be withdrawn.

In view of the above discussion, Applicant respectfully requests that the rejection of claims 24-25, 27-30, 32-33, 35-36, 38, 40-41, and 45-53 under 35 U.S.C. § 103(a) be withdrawn, and that an indication of the allowability of claims 24-25, 27-30, 32-33, 35-36, 38, 40-41, and 45-53 be provided in the next Official communication.

SUMMARY

From the remarks and arguments provided above, Applicant respectfully submits that all of the pending claims in the present application are patentable over the references cited by the Examiner, either alone or in combination. Accordingly, reconsideration of the outstanding Final Official Action is respectfully requested, and an indication of the allowance of claims 24-25, 27-30, 32-33, 35-36, 38, 40-41, and 45-53 is now believed to be appropriate.

Should there by any questions, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,
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